



THE SF PEN



THE SAN FRANCISCO POWER ENGINEERING NEWSLETTER
Editor-in-Chief: Kris Buchholz

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WINTER 2003

NOTE: Please pass this on to interested non-PES members

NEW LOCATION FOR NOON PRESENTATIONS – THANK YOU NEXANT!!!!

By Julian Ajello

With security measures making building access difficult and the cost of rooms increasing, the SF PES has had to find a new location for our noon presentations. THANKS to Nexant, our search is over!!!

You will notice in the flyers that the location of our meetings is now at the Nexant offices, 101 Second Street, 11th Floor in "Central Park," a.k.a. Employees Lounge. It is a spacious facility with tables and chairs, making it convenient to eat your lunch and listen to our speakers. There is a Peet's Coffee & Tea in the lobby, so if you need a great cup of coffee, a soft drink or a snack, this shop is well-situated.

This location is also VERY close to BART and MUNI. Exit BART or MUNI at the Montgomery Street Station. Walk two blocks south on Second Street. Nexant is the all glass building across Mission Street on the left, at 101 Second Street.

The Power Engineering Society thanks Pacific Gas & Electric for supplying meeting rooms all these years and again – THANK YOU NEXANT!!

UPCOMING MEETINGS

By Dan Sparks

We currently have two events fully scheduled for 2003 (January and February noon meetings highlighted in other articles/flyers) and three events in the planning stages.

MARCH -- Topic: BioMass Generation
Date: 3rd week of March – *tentative*

SPRING COURSE – Topic: Distributed Generation Fundamentals

Date: Saturday in May
Location: SFSU – *tentative*

Outline:

- DG Types
- System Characteristics
- Interconnection (voltage, frequency, stability, protection, load sharing)
- Types of Interconnection (parallel, island)
- Standards and References

Please send suggestions and/or speaker names to Chase Sun, CTS1@pge.com.

SPRING BANQUET – Mike Barhman, Manager ABB HVDC FACTS Division will talk about Flexible AC Transmission Systems.

Date: May 15, 2003

Location: Sinbad's

Price: TBD

IEEE GRID & THE SF PEN ON THE INTERNET

Soon The SF PEN only available electronically?

By Kris Buchholz

You have all received notification of the IEEE Grid going to the Internet. You can view it on-line at:

www.ieee-sfbac.org/grid

We have recently put *The SF PEN* on-line also. You can view our newsletter at:

www.ewh.ieee.org/r6/san_francisco/sfpes

We have received positive responses to our flyers being available electronically. Now, after 20 years of printing, folding and mailing, we are considering moving to a totally electronic format.

The most time-consuming part of publishing *The SF PEN* is gathering on Saturdays four times per year to print the articles, fit them to a newsletter format, make all of the copies, and tri-fold all 700 copies. This process is also very expensive due to the mailing costs.

With the explosion of the Internet and the vast majority of our IEEE PES members in the Bay Area having e-mail addresses, moving *The SF PEN* to a fully electronic format seems to make the most sense. *The SF PEN* staff would be available to print a hard copy of the newsletter for those members who have provided us with their mailing address, thus you would not miss out on the latest news. This method would be similar to the form that you normally see on Page 2 for members on our extended mailing list.

Another advantage to an electronic format is the ability to receive **TIMELY** information. One of the complaints that we have heard over our 20 years is regarding articles that are out-of-date by the time our members receive their copy in the mail. Often this is due to one or two week delays in stuffing envelopes or mailing delays. If we move to an all electronic format, you will receive an e-mail notifying you of new articles with a link directly to our Internet page.

We hope that this new electronic format will be acceptable to our members. Please contact me at KKB1@pge.com or any of our ADCOM members to provide suggestions and feedback.

CONGESTION MANAGEMENT AT PJM ISO

By Dan Sparks

On October 30, 2002, Dr. Mehmet Kemal Celik, Nexant, Inc., presented "Congestion Management at Pennsylvania-New Jersey-Maryland (PJM) Independent System Operator (ISO)". Approximately 30 people attended the technical meeting.

Congestion occurs when more power is scheduled to flow over a transmission path than the rating of the path. When congestion occurs it must be dealt with by the ISO. The method to relieve congestion requires that generation resources be re-dispatched in a less economic manner. This imposes costs on market participants, such as, generators and load serving entities. Financial transmission rights (FTRs) provide a tool to hedge against congestion costs. FTRs are awarded through an auction conducted by PJM ISO. Interested parties (not necessarily market participants) purchase FTRs based on their forecast of future congestion along certain paths. FTRs do not guarantee a revenue stream. Indeed, the net proceeds from an FTR can be negative.

PJM ISO conducts a day-ahead auction to determine the marginal price at several nodes in the transmission grid. These

hourly prices, known as locational marginal prices (LMPs), are calculated 24 hours in advance for specified nodes on the transmission grid. FTRs are based on the difference between LMPs at the two nodes where generation has been re-dispatched to relieve congestion. Specifically, an FTR gives its owner a credit or debit based on a specified MW reservation between a point of delivery and a point of receipt. The debit or credit is determined by the direction of the congestion. A credit (or benefit) occurs when the FTR is in the same direction as congestion. A debit (or liability) occurs when the FTR is in the opposite direction of congestion. Note that FTRs are based on schedules and not actual power flows during operation.

Dr. Celik went into detail about the calculations used to determine FTR values. In addition, he discussed a software tool that Nexant has developed to help forecast the value of FTRs in the PJM market. Finally, he covered changes in the FTR process at PJM ISO that resulted from lessons learned through conducting the auctions. If you would like a copy of Dr. Celik's presentation, please contact Dan Sparks, dan.sparks@ieee.org.

In conclusion, FTRs are an important part of the Federal Energy Regulatory Commission's (FERC) Standard Market Design (SMD). The SMD has been heavily debated within the electricity industry. The

PJM ISO has been singled out by FERC as a potential prototype for other areas of the country to emulate. It is possible that the FTRs described by Dr. Celik will become commonplace and indirectly affect the prices that many Americans pay for electricity.

REAL-TIME ENERGY MANAGEMENT SYSTEMS FOR TRANSMISSION SYSTEM OPERATIONS*

By Julian Ajello

On January 15, 2003 Mr. John Sell, of EleQuant, will speak on the latest development in energy management systems.

This presentation will actually include a demonstration of a recent version of energy management software. These demonstrations always improve all of our understanding of the actual operation of equipment, systems or software.

The presentation will be held at noon at the Nexant offices, 101 Second Street.

As we did last year, we will elect our 2003 Chair, Vice Chair, Secretary, and Treasurer at this meeting. If you are a PES member and can't attend this meeting, contact Dan Sparks for a mail-in or email ballot. Candidates appear on page 4.

* For those receiving their newsletters prior to this meeting.

MAILING LIST ADDITIONS

If you are not regularly receiving *The SF PEN*, and would like to, fill out the form below and return to the Editor-in-Chief of *The SF PEN*. Or better yet, become a member of one of the San Francisco Bay Area's IEEE Power Engineering Societies and automatically receive *The SF PEN*. For PES membership information, call Trang Luu, (510) 874-2512 and FAX (510) 874-2507.

===== DETACH HERE =====

RETURN TO: Kris Buchholz
PG&E
P.O. Box 770000, Mail Code H12A
San Francisco, CA 94177 FAX (415) 973-8147

Yes, I'd like to receive *The SF PEN*. Place me on your mailing list to receive future issues.

NAME: _____

AFFILIATION: _____

ADDRESS: _____



CHAIRMAN'S

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By Siri Varadan

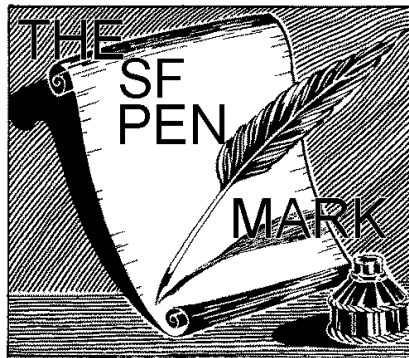
As we begin yet another year, I trust that you have all had a good holiday season blessed by Santa himself. My Christmas gift was the first smile of my 3-month old baby girl. Needless to say, I can't ask for anything more precious. I am indeed thankful.

As the official Chairman of the IEEE-PES ADCOM, I want to take this opportunity to wish you all a very happy and prosperous new year. I am looking forward to this year as the year of hope ... and positive change. With the idea of going to war, the threat to basic security and a host of economic woes plaguing everyone, it is with the utmost sincerity that I hope things will turn for the better. Given that change is the only constant, I am hoping that any change will be positive for all of us.

We have begun this year on a positive note. Our corporate sponsor, Nexant Inc., has been kind enough to allow us to hold meetings and presentations at its headquarters in the City, which is centrally located, on Second Street in downtown San Francisco, and convenient for BART and MUNI users. I am hoping to see a lot of you attend and participate in the distinguished speaker presentations that will continue throughout this New Year, as location is no longer a valid excuse! Plans are on for the annual spring banquet and a number of other beneficial activities including advanced training opportunities in selected topics for IEEE PES members.

I am hoping that our presentations and seminars will raise the level of knowledge and understanding of the power industry in general from a technical, business and political point of view, making us all learn stuff outside of our usual engineering activities. In this regard, I am hoping to receive your feedback and suggestions to improve the quality and frequency of PES

sponsored activities as we enter this New Year. Once again, I wish the year brings you all that you hoped for...and more!



By Kris Buchholz

For those of you who remember ALL of our articles and announcements in our last edition of *The SF PEN*, I would like to apologize for the "teaser" on our November and December meetings. No, you did not miss the flyers. Unfortunately, we were unable to hold these meetings due to date conflicts.

You will see in this edition that we have gone to SIX pages. This change was done for this publication to accommodate the February flyer AND the ESMO Conference. We are looking for ways that we can save in the overall copying and mailing costs for IEEE PES, and combining these mailings and announcements this time is one way to achieve some cost savings.

PLEASE read the article on the front page regarding moving *The SF PEN* to the Internet. We are tentatively planning on making this move towards the end of 2003. We will give everyone plenty of warning and opportunity to sign-up for our *extended* mailing list.

I also want to bring everyone's attention to a slight change in the scheduling of our Public Affairs event. The Public Affairs event features a topic of general interest to everyone, not just electric power engineers. Publicity is sent to local newspapers announcing the event. This year's Public Affairs event will be our February meeting instead of our Spring Banquet. Information on the February meeting can be found as a flyer in this newsletter. Please consider bringing other friends, co-workers or even family to this presentation on Green Buildings.

The SF PES ADCOM is still identifying a topic and a speaker for our April noon

presentation. If you have any suggestions, please contact any of our ADCOM members.

As mentioned in our last publication, IEEE Power Engineering Society is no longer holding a Summer Power Meeting and a Winter Power Meeting. Instead they have changed their format to ONE General Meeting, which will be held this year in Toronto in July. Since many of the committees and sub-committees are continuing to work at the same pace on our IEEE Standards, Guides and papers, we still need to meet. From July 26 through July 30, there will be a Technical Committee Winter Meeting in Las Vegas, Nevada for the T&D, Energy Development and Power Generation, and Substation Committees, along with NESC Subcommittee 5 (Towers, Poles and Structures) and various IEC Technical Committees. For information and registration, please go to:

ieeepes.org/organizations/society/power and choose Meetings and then the Technical Committee Winter Meeting link.



Finally, I want to remind everyone of the wonderful opportunity presented by the ESMO Conference, April 6 – 10, 2003 in Orlando, Florida. The ESMO Conference is a meeting with a combination of technical presentations, indoor exhibits and outdoor demonstrations. It is the only conference of this kind in the power industry and is only held every two to three years. Utilities and contractors from throughout the world discuss and demonstrate the latest work methods and technology. The last ESMO Conference was in Montreal in 2000.

We have included the registration form in this newsletter. You can find out more information and why you should attend by going to:

esmoconference.com
or calling me at 415-973-3093.

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2003
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ESMO 2003 Advance Registration Form



Complete this form and mail or fax to:

ESMO 2003 Registration
 9800 Metcalf Avenue • Overland Park, KS 66212-2216 USA
 Fax Number: (913) 967-1898 • Questions? Phone: (913) 967-1865

Last Name	First Name	Middle Initial
Affiliation/Company	Title	
Street Address or P.O. Box		
City	State/Province	Zip/Postal Code
Country	Daytime Phone Number	Fax Number
Spouse/Companion Name (if registering)		

Other Information (Check all that apply)

<input type="checkbox"/> Utility	<input type="checkbox"/> Wholesaler/Distributor	<input type="checkbox"/> Panel Session Chair	<input type="checkbox"/> IEEE Member	Member No. _____
<input type="checkbox"/> Government	<input type="checkbox"/> Manufacturing	<input type="checkbox"/> PES Officer	<input type="checkbox"/> ASCE Member	_____
<input type="checkbox"/> Consulting	<input type="checkbox"/> Author	<input type="checkbox"/> Committee Officer	<input type="checkbox"/> ASME Member	_____
<input type="checkbox"/> University	<input type="checkbox"/> Panelist	<input type="checkbox"/> IEEE Officer		

Registration Fees (All costs listed in U.S. dollars)

Registration Status	Advance Registration Before March 4, 2003	Late/On Site Registration After March 4, 2003	Subtotal
IEEE/ASCE/ASME Member*	___ \$395	___ \$450	\$ _____
Non-IEEE/ASCE/ASME Member*	___ \$495	___ \$550	\$ _____
Spouse/Companion (Includes banquet only)	___ \$ 80	___ \$ 95	\$ _____
Other: <input type="checkbox"/> Life Member <input type="checkbox"/> Life Member's Spouse <input type="checkbox"/> Media <input type="checkbox"/> Exhibitor**			No Charge

* Includes access to all technical sessions, exhibits and demonstrations; Sunday night welcome reception, Tuesday night banquet and entertainment; continental breakfast and lunch on all four days; transportation between host hotels and outdoor field site; and a copy of conference proceedings.
 ** Refer to Exhibitor/Demonstrator Brochure for information concerning complimentary registrations.

Spouse/Companion Activities (enter number of tickets desired)

			Subtotal
Monday, April 7	Downtown Disney Shopping Tour	___ x \$35	\$ _____
Tuesday, April 8	Kennedy Space Center*	___ x \$45	\$ _____
Wednesday, April 9	Scenic Winter Park/Park Avenue Shopping Tour*	___ x \$26	\$ _____

Round-trip transportation via deluxe motorcoach, uniformed tour guide, admission fee, lunch (except where noted with an asterisk), all taxes and gratuities are included with each activity.

*Lunch not included.

TOTAL REMITTANCE (U.S. Dollars) \$ _____

Method of Payment (U.S. dollars drawn on a U.S. bank)

Check Enclosed Payable to: ESMO 2003

Name as Appears on Card: _____ Card Type: _____

Card Number: _____ Exp. Date: _____ Authorized Signature: _____

For hotel reservations, please call the Rosen Centre Hotel at 1-800-204-7234 Deadline for hotel reservations is March 4, 2003.

CANCELLATION POLICY: Cancellations received after March 4, 2003 will be subject to a US\$50 service charge. No cash refunds will be made at the conference. Refund requests for "no shows" must be made in writing and received no later than April 14, 2003. No refunds will be given for cancellations received after April 14, 2003.



February 12



The INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
San Francisco Chapter

ENGINEERING GREEN BUILDINGS by GEOF SYPHERS, KEMA

DATE & TIME:
*Wednesday,
February 12, 2003
12:00 Noon*

LOCATION:
*Nexant, Inc.
101 2nd St.
11th Floor
"Central Park"
(Employee Lounge)
San Francisco*

INFORMATION:
*Dr. Siri Varadan, P.E.
(415) 369-1006*

RESERVATIONS:
Not Required

*SF PES thanks
Nexant, Inc. for
providing their
facilities for this
meeting.*

If you're interested in learning how the next generation of efficient buildings is being designed, come to this presentation on the green building design process and the engineering behind it. Mr. Geof Syphers will describe recent changes to the standard design process that encourage innovation. The Leadership in Energy and Environmental Design (LEED™) rating system, developed to help design and recognize exceptional buildings, is at the heart of this change because of its systematic method of designing across disciplines. Advanced technologies like underfloor air distribution, adaptive controls, and effective natural ventilation all benefit from a multi-disciplinary design process.

Geof Syphers is Director of Green Building Services at KEMA. His Green Building Group offers training courses, design assistance, municipal code development, and LEED™ documentation services. He provides new construction and major retrofit design assistance in the areas of siting, energy and water efficiency, daylighting, finishes, and community design. The multi-disciplinary approach requires close coordination with more than a dozen subcontractors in engineering, architecture, planning, and cost estimation. Recent projects include facilitating design sessions for the new San Jose City Hall and the Alameda County Hall of Justice, drafting and successfully lobbying for a municipal green building ordinance in Pleasanton, and managing the design assistance on more than 30 new construction projects. Mr. Syphers is a registered professional engineer in California.